

**CALIFORNIA COASTAL COMMISSION**

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# M 11b

**STAFF RECOMMENDATION****ON CONSISTENCY DETERMINATION**Consistency Determination No. **CD-105-01**

Staff: JRR-SF

File Date 12/05/2001

60<sup>th</sup> Day 02/03/200275<sup>th</sup> Day 02/18/2002

Commission Meeting 01/07/2002

**FEDERAL AGENCY:** **U.S. Air Force****PROJECT  
LOCATION:**

Minuteman, Wall, Surf, and Ocean Beaches, Vandenberg  
Air Force Base, Santa Barbara County (Exhibit 1).

**PROJECT  
DESCRIPTION:**

Interim beach management plan, including restrictions on  
beach access, predator management and enforcement  
plan (Exhibits 2, 3, and 4) to protect nesting habitat for  
the western snowy plover.

**SUBSTANTIVE  
FILE DOCUMENTS:**

See page 21.

**EXECUTIVE SUMMARY**

The Air Force submitted a consistency determination for an interim beach management plan for the 2002 snowy plover nesting season, which provides for restrictions to beach access on Vandenberg Air Force Base (Vandenberg) in order to protect the western snowy plover, a federally listed threatened species. This plan includes a re-implementation of previous beach closures, which began in July 1999. The Air Force's consistency determination requests concurrence with its interim beach management plan for the 2002-nesting season. The Air Force proposes that the following beaches remain open for recreational use: (1) general public access to 0.5 mile of Surf Beach in the vicinity of Surf Station; (2) military personnel and limited civilian (by pass only and for fishing purposes) access to the northernmost 0.25 mile

of Wall Beach; and (3) military personnel access only to Minuteman Beach. The interim beach management plan also provides for beach closure enforcement, plover monitoring, public education, predator control, and exotic plant removal.

The Air Force has been working with the Service and the Commission staff for a number of years on the conflict caused by the plover habitat protection measures and recreational use of the beach. Both needs are critical along this stretch of coastline. Vandenberg provides very valuable nesting habitat for the plover and is vital to the recovery of the species. However, Vandenberg is located on a stretch of coast that has limited public access opportunities. Between Pt. Sal and Gaviota, a 64-mile stretch of coast, there are only two publicly accessible beaches.

In reviewing similar restrictions in the past, the Commission has found these restrictions to be consistent with the public access and recreation (Sections 30210-30214) and the habitat (Section 30240) policies of the Coastal Act. Past monitoring data indicated that the snowy plover population had generally declined over the past few years and is the basis for the Air Force's determination that it is necessary to implement measures that are more protective. Monitoring data supports the conclusion that the plover is adversely affected by recreational activities on the beach.

Generally, the proposed beach management plan is similar to that which was approved by the Commission for the 2001 plover-nesting season. The Air Force has modified the plan to improve communications between monitors and enforcement personnel and reduce the amount of lethal removal of crows and ravens. These measures are likely to enhance the protection of the plovers. The Air Force's consistency determination provides for the option of closing all the beaches to recreation use through the remainder of the nesting season. The option for full closure is necessary to allow the Air Force to meet its enforcement commitments. The closure, including the option for total closure, is a necessary component of the Air Force's habitat management, and therefore, it is consistent with access policies of the Coastal Act (Sections 30210, 30213, and 30214), which allow habitat protection to be a basis for limits on access and recreation opportunities. Therefore, the total closure of the affected Vandenberg beaches is consistent with the access policies of the CCMP.

The sandy beaches on Vandenberg support nesting snowy plovers, a federally listed threatened species. In addition, the Service has designated these beaches as "Critical Habitat" for the snowy plover. Therefore, the snowy plover habitat on Vandenberg is an environmentally sensitive habitat area (ESHA). The purpose of these access restrictions are to provide better management of the sensitive resource and, as such, is an activity that is dependent on the sensitive habitat resources. The plan allows the Air Force to minimize human disturbances to plover nests by restricting access. In addition, the plan provides for predator management to reduce

plover losses from coyotes, small mammals, crows, ravens, raptors, and other predatory birds. The plan includes measures to reduce predation and remove predators, using both non-lethal and lethal techniques, in manner that protects the area's ecology. The management plan will not significantly disturb the habitat and is consistent with ESHA policy of the CCMP (Coastal Act Section 30240).

### **STAFF SUMMARY AND RECOMMENDATION:**

**I. Project Description.** The Air Force proposes restrictions on beach access (including military personnel) at beaches where snowy plovers nest on Vandenberg Air Force Base in northern Santa Barbara County. The closures will occur during the plover's nesting season, March through September. Under this interim plan, the Air Force proposes to provide recreational access during the nesting season to three separate areas:

- Public access to 0.5 mile of Surf Beach in the vicinity of Surf Station, using the existing access trail and a trail from Ocean Beach County Park along the back dunes. The southern boundary of the closure will be just south of the Surf Station access route. The northern boundary will be established to avoid the cluster of several nests that typically occurs on the northern edge of this beach segment (Exhibit 2).
- Military access and civilian fishing access (subject to Vandenberg pass) only to the northernmost 0.25 mile of Wall Beach (Exhibit 3).
- Military access only to the northernmost 0.5 mile of Minuteman Beach, on the bluff-backed beach north of the existing access trail where snowy plover nesting has not been known to occur to date (Exhibit 4).

The Air Force's enforcement program provides for the use three enforcement officers. One person will be stationed at Surf Beach, another at Ocean Park, and a third person will patrol both Wall and Minuteman Beaches. Periodic night patrols will also be conducted. In addition, the Air Force proposes to limit its enforcement staff to foot or horseback and to restrict them to the wet sand in closed areas to the maximum extent practicable. The Air Force's enforcement staff will use "All terrain vehicles" only for emergency purposes and will remain on the wet sand to the maximum extent possible.

The plan provides for full closure of snowy plover nesting beaches if adequate enforcement staff is not hired or if the number of identified violations exceed the following:

- 25 violations of the closed area of Surf Beach;

- 10 violations of the closed area of Wall Beach;
- 5 violations of the closed area of Minuteman Beach.

All other beach areas on Vandenberg supporting nesting snowy plovers would be closed from March 1 through September 30, 2002. In all, 11.25 miles (90 percent) of nesting habitat on Vandenberg would be protected during the nesting season.

In addition, the plan provides for the management of coyotes, small mammals, crows, ravens, and raptors. The Air Force proposes to implement beach clean up and carrion removal to eliminate debris that attracts these predators to the beach. The Plan also includes both lethal and non-lethal removal of predators from the snowy plover nesting habitat. In addition, the plan includes the following protocols to minimize the ecological effects from the lethal removal of predators:

1. No lethal removal of species that are listed by federal or state agencies as Threatened or Endangered (e.g. peregrine falcon).
2. For non-listed species, the Air Force will consider lethal removal of species that fall within the following categories:
  - Species that are known to be extremely difficult to trap;
  - Species for which non-lethal management techniques are determined to be infeasible or not available; and
  - Individual animals that are identified as being directly responsible for predation, when their removal is expected to result in reduced predation to snowy plover nests.
3. Lethal removal of top-level predators (i.e., coyote, raptors) will be considered within the following criteria:
  - There will not be any lethal action taken against a Coyote alpha pair.
  - Selective lethal removal will target individual problem animals, after failure to live-trap the animal (if applicable to the species in question), and after consultation with professionals.
  - Selective lethal removal will occur only if there is evidence of nest predation, there is evidence to indicate that further losses are probable due to observed foraging patterns in the area where the loss occurred, and there are other nests at risk of predation in that area.

- Lethal removal will cease once it is confirmed that the identified predation problem in the area has ceased.
- The lethal removal of coyotes will consist of trapping and euthanizing the offending animal.

4. The Air Force will not take lethal actions against any raptor species.

**II. Status of Local Coastal Program.** The standard of review for federal consistency determinations is the policies of Chapter 3 of the Coastal Act, and not the Local Coastal Program (LCP) of the affected area. If the Commission certified the LCP and incorporated it into the California Coastal Management Program (CCMP), the LCP can provide guidance in applying Chapter 3 policies in light of local circumstances. If the Commission has not incorporated the LCP into the CCMP, it cannot guide the Commission's decision, but it can provide background information. The Commission has certified Santa Barbara County's LCP and incorporated it into the CCMP.

**III. Federal Agency's Consistency Determination.** The U.S. Air Force has determined the project to be consistent to the maximum extent practicable with the California Coastal Management Program.

**IV. Staff Recommendation.** The staff recommends that the Commission pass the following motion in support of its action:

*I move that the Commission concur with consistency determination CD-105-01 and that the project described therein is fully consistent, and thus is consistent to the maximum extent practicable, with the enforceable policies of the California Coastal Management Program (CCMP).*

Staff recommends a YES vote on the motion. Passage of this motion will result in an agreement with the determination and adoption of the following resolution and findings. An affirmative vote of a majority of the Commissioners present is required to pass the motion.

**A. Resolution To Agree With Consistency Determination:**

The Commission hereby agrees with the consistency determination by U.S. Air Force, on the grounds that the project described therein is fully consistent, and thus is consistent to the maximum extent practicable, with the enforceable policies of the CCMP.

**V. Findings and Declarations**

The Commission finds and declares as follows:

**A. Regulatory Background.** The U.S. Fish and Wildlife Service listed the Pacific Coast population of the Western snowy plover as “threatened” in March 1993 under the Endangered Species Act (ESA) of 1973, as amended. The ESA mandates federal agencies, such as the Air Force, to protect snowy plovers on their land and enforce the provisions of the ESA, which prohibit accidental and intentional take. The ESA also places a proactive requirement on all federal agencies to participate in the recovery of the species.

During the 1993 nesting season, the U.S. Fish and Wildlife Service reported to the Air Force that normal public activity on Vandenberg resulted in both direct mortality to snowy plover eggs and harassment of adults and chicks. Overall, observed fledging success was far lower at Ocean Beach, which is open to the public, than at other Vandenberg beaches that are not open to the public.

Last year, the Air Force in coordination with the Service, increased the area of beaches closed to the public and improved its enforcement of these restrictions. In addition, the Air Force increased its efforts to manage predators. The Air Force was unable to hire adequate enforcement staff and the beaches remained closed for longer than anticipated. The Air Force first opened the beaches for the Memorial Day weekend, and, because of inadequate numbers of enforcement staff, the beaches were opened just for weekends for the remainder of the season. Although the Air Force has not completed the monitoring report for last year, discussions with Air Force biologists indicate that nesting success was better last year than the last few years.

**B. Public Access and Recreation.** Section 30210 of the Coastal Act provides for maximizing public access and recreation opportunities, providing that such activities take into account natural resource protection needs. Section 30213 provides for protection of lower cost visitor and recreational facilities. Section 30214 elaborates on access management considerations, providing that:

*(a) The public access policies of this article shall be implemented in a manner that takes into account the need to regulate the time, place, and manner of public access depending on the facts and circumstances in each case including, but not limited to, the following:*

...

*(2) The capacity of the site to sustain use and at what level of intensity.*

*(3) The appropriateness of limiting public access to the right to pass and repass depending on such factors as the fragility of the natural resources in the area....*

The access policies of the Coastal Act clearly provide for restricting public access and recreational opportunities in order to protect natural resource areas. However, in order to understand the significance of the impact of the proposed restrictions, the Commission must analyze these access restrictions in the context of the existing access resources in the area. Access to the northern Santa Barbara County coast is one of the more limited areas of the California coast. Between Gaviota and Point Sal is a 64-mile stretch of coastline that is only fully open to the public at two locations: Surf Beach and Jalama Beach. There are some other limited access opportunities on Vandenberg, which require permits from the Air Force Base and are limited to fishing. All of these beaches are subject to temporary closures during missile launches at Vandenberg.

Three large landowners, the Air Force, Bixby Ranch, and Hollister Ranch, own most of the coast in this area. The Commission has a long and extensive history of concern over the limitations on public access to this area of the coast, including numerous attempts to implement the public access provisions of the Coastal Act at Hollister and Bixby Ranches through the permit and LCP processes. Although the Santa Barbara County LCP contains public access requirements that would be triggered by development at Bixby Ranch, that development has not occurred and that area remains inaccessible. In addition, the Commission concurred with a consistency determination (CD-21-82) by the Air Force for the construction of a Space Shuttle launch facility, in part, because it included additional public access at Ocean Beach and north of Jalama Beach. In another consistency determination (CD-5-89), the Commission staff recommended objection (the Air Force withdrew the project at the hearing) to a proposal to construct a new launch facility because of impacts, including closures, to the use of Jalama Beach. Finally, the Commission objected to a consistency determination (CD-65-90) for the Air Force's proposed acquisition of development rights on Bixby Ranch, because it affected the local government's ability to implement the access provisions of its LCP. These actions demonstrate that protecting existing and providing new access opportunities in this area of the coast is a high priority for the Commission.

Although Vandenberg provides critically needed public access opportunities in an area where access is limited, it is equally, if not more, critical to the survival of the snowy plover. As discussed in the ESHA section below, Vandenberg provides important habitat that is necessary for the survival and recovery of the bird. Because of the historic and geographic limitations on public access to the shoreline, snowy plover issues on publicly open beaches on Vandenberg are complex and difficult issues for the Commission. The Commission is forced to make a difficult

choice between protecting snowy plover habitat that the Service has identified as critical to the survival and recovery of the species and public access to the shoreline.

In its biological opinion for the Air Force's 2001 interim beach management plan, the Service describes this impact from the public recreational use of the beach as follows:

*The Pacific coast population of the western snowy plover has experienced widespread loss of nesting habitat and reduced reproductive success at many nesting locations due to urban development and the encroachment of European beachgrass. Human activities such as walking, jogging, unleashed pets, horseback riding, and off-road vehicles can destroy the western snowy plover's cryptic nests and chicks. Indirect impacts from these activities include disturbance of western snowy plover adults to the extent that they abandon nests or interference with incubation to the point that eggs become buried by sand or fail to hatch because of exposure to cold or heat (Warriner et al. 1986). Western snowy plovers do not usually abandon their nests because of wind without another compounding factor such as human disturbance (Page, pers. comm.). Human activities can also interfere with foraging activities by disrupting the ability of adults and chicks to get to the wet beach to feed and return to the dunes or their nest (Burger 1993). Chicks can also become separated from their parents as a result of human disturbance of broods. Such disturbance could cause or contribute to chick mortality by interfering with essential chick-rearing behaviors or by causing intolerable stresses directly to the chicks (Cairns and McLaren 1980). For example, separation of chicks and their parent can lead to lethal exposure to wind and cold temperatures or disturbance that interferes with foraging could result in the starvation of western snowy plover chicks. In some instances, disturbance associated with these types of recreational activities is expected to temporarily flush western snowy plovers and not affect the birds in such a substantial manner. In other cases, such disturbance could interfere with the metabolism and thermoregulation of western snowy plover chicks and migrating or wintering adults such that they starve or egg production is impaired during the subsequent nesting season (Cairns 1982). The available information regarding the energetics of western snowy plovers is inadequate to assess the likelihood that such injury or mortality would result. In 1998, a pattern of increased chick loss over weekends (when increased human use of beach areas occurs) was observed by western snowy plover researchers at Point Reyes National Seashore. In response to this observation, a protocol for collecting data on chicks was standardized in 1999 and 2000. Chicks were observed on Fridays and then again on Mondays (or the day after a*



*holiday). Chick loss over weekends was over 1.5 times the weekday loss. Data from 1999 and 2000 show almost identical trends (Page, pers. comm.).<sup>1</sup>*

Additionally, the monitoring reports for snowy plovers on Vandenberg have documented, since 1996 (when regular monitoring of fledging success began), that increased restrictions to recreational use corresponds with increases in fledging success.

**Table 1: Chick fledging rate by beach segment on Vandenberg, 1997 to 2000.<sup>2</sup>**

Year	North Beaches <sup>3</sup>	Purisma Beaches <sup>4</sup>	South Beaches <sup>5</sup>	Base Wide
1997	33-34%	23-27%	12%	24-26%
1998	0%	--	12%	6%
1999	53%	--	53%	53%
2000	32%	--	30%	31%
2001 <sup>6</sup>	48%	--	45%	47%

These monitoring data generally show that fledging success improved after the Air Force implemented its closures. These data seem to indicate that recreational use adversely affects fledging success. However, the sample size for this data is too small to draw any conclusions about the relationship between recreational use of the beach and fledging success.

The monitoring reports also provide some data on nest hatching success on Vandenberg.

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<sup>1</sup> Biological Opinion for Beach management and the Western Snowy Plover on Vandenberg Air Force Base for the 2001 Breeding Season (1-8-01-F-13).

<sup>2</sup> Western Snowy Plovers on Vandenberg Air Force Base, 2000 final Report, Thomas E. Applegate and Sandra J. Schultz, January 2, 2001, p. 22.

<sup>3</sup> Includes Minuteman, Shuman, and San Antonio Beaches.

<sup>4</sup> Includes the Purisma and Purisma North Colonies, the Air Force stopped collecting fledging data after 1997.

<sup>5</sup> Includes Wall, Surf North, and Surf South Beaches.

<sup>6</sup> 2001 data is from an Email sent by Nancy Read Francine, Air Force Wildlife Biologists, 12/14/01.

**Table 2 Percent hatch rate of known fate nests by beach segment on Vandenberg, 1994-2000<sup>7</sup>**

<b>Year</b>	<b>North Beaches</b>	<b>Purisima Beach</b>	<b>South Beaches</b>	<b>Base-wide</b>
1994	28	75	28	31
1995	46	100	31	43
1996	57	93	48	55
1997	22	93	11	19
1998	42	50	29	37
1999	81	78	38	57
2000	47	0	28	32
2001 <sup>8</sup>	51	83	52	52

This table shows the percentage of nests that successfully hatched in any given area. On the Purisima Beaches, the hatch rate was high in most years and this nesting success is probably attributable to very low recreational use of the beaches (use is limited to fishing and requires a permit), and fencing and other predator controls implemented to protect the least tern, a federally listed endangered species that nests on that beach. Excluding the Purisima Beach data and comparing south beaches, which are generally open to recreational use, and north beaches, which are generally closed to recreational use, there do not appear to be any obvious conclusions that can be reached. However, recent data (within the last three years) collected during a time with restrictions that are more extensive on beach use, the hatching success seems to be increasing. However, the Commission hesitates to make any conclusions at this point. With only seven years of monitoring, there are not enough data to make any statistically reliable conclusions.

Although most of the data for the last seven years are not conclusive, one factor remains clear: the population of snowy plovers is declining. The Pacific Coast population of the western snowy plover has declined over the last few years and continues to decline. The range-wide population of adult plovers has decreased by

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<sup>7</sup> Western Snowy Plovers on Vandenberg Air Force Base, 2000 final Report, Thomas E. Applegate and Sandra J. Schultz, January 2, 2001, p. 21.

<sup>8</sup> 2001 data is from an Email sent by Nancy Read Francine, Air Force Wildlife Biologists, 12/14/01.

29% from (1371 to 976).<sup>9</sup> The population decline on Vandenberg has been slightly more dramatic than the range-wide declines. The Vandenberg population has declined from 242 adult birds in 1991 to 106 adult birds in 2000,<sup>10</sup> a 56% decline. Recent monitoring data at Vandenberg documents this decline and also shows a decline in total number of nests and nests that resulted in hatched birds. In addition, these data appears to show an increase in plovers and nests since implementing more restrictive access provisions.

**Table 3. Western snowy plover population size and number of nests at Vandenberg.**<sup>11</sup>

Year	Mean Number of Plovers	Total Number of Nests	Total Number of Nests Hatched
1994	223	260	72
1995	211	223	84
1996	224	286	149
1997	238	411	77
1998	132	150	49
1999	78	104	52
2000	105	140	41
2001	135	182	96

The declines in adult plovers, nests, and hatching that these data document makes it clear that the additional protections are necessary. The Service, Air Force, and Commission are concerned that this decline may continue unless something is done to protect the birds' nesting habitat. There are not enough data to determine the cause or causes of this decline. It is likely that a combination of El Niño weather events, predation, recreational use of the beach, and other human activities cause the decline. The range-wide and base-wide declines are significant enough to warrant appropriate action by the Service. At Vandenberg, the Service and the Air Force have agreed to restrict recreational use of the beach, increase predator controls, and implement habitat improvements. The general approach is to err on

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<sup>9</sup> Biological Opinion for Beach management and the Western Snowy Plover on Vandenberg Air Force Base for the 2001 Breeding Season (1-8-01-F-13), P.14..

<sup>10</sup> Ibid.

<sup>11</sup> Biological Opinion for Beach management and the Western Snowy Plover on Vandenberg Air Force Base for the 2002 Breeding Season (1-8-02-FxxR), p. 7.

the side of caution. In other words, it is imperative that the Air Force takes every feasible measure to protect the species, even if there is not enough data to document the primary cause or causes of the decline. Therefore, the Commission generally supports the proposed beach closures as a cautious measure necessary to protect the plover.

The Air Force's consistency determination provides for the option of closing all the beaches to recreation use if the Air Force cannot meet its enforcement commitments. The Air Force has prepared an enforcement plan, which provides for placement of an enforcement officer at the Surf Station and at Ocean Beach Park and one additional person patrolling Wall and Minuteman Beaches. The plan also provides for nighttime patrols occurring at least twice a week. Finally, the plan provides for closing the open portions of the beach if the number of violations exceed any of the following: 1) 25 violations at Surf Beach; 2) 10 violations at Wall Beach; 3) 5 violations at Minuteman Beach.

The proposed level of enforcement is consistent with last year's program, which was a significant increase over previous years. Since Vandenberg's beaches were closed for most of the nesting season, it is difficult to determine if the plan provides for an adequate level of enforcement. However, the snowy plover habitat will be protected by the Air Force's commitment to keep the beaches closed until it hires adequate enforcement staff and the plan's provision for additional beach closures based on the number of violations. The determination of violation is not limited to the number of people cited, but includes documentation based on footprints, trash, or other evidence of human use. In addition, since this is an interim plan for the 2002-breeding season, the Commission will have the ability to require changes to future enforcement plans should there be evidence that there is not enough enforcement to protect the snowy plover. Therefore, the Commission finds that the enforcement plan will provide for protection of the snowy plover in a manner consistent with the Coastal Act.

In conclusion, the Commission finds that the proposed beach restrictions are consistent with the access policies of the Coastal Act because they are necessary to protect the plovers. Therefore, the Commission finds that the proposed activity is consistent with the access policies of the CCMP.

**C. Environmentally Sensitive Habitat.** Section 30240(a) of the Coastal Act provides that:

*Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas.*

## 1. Description of the ESHA.

The beaches on Vandenberg provide both nesting and wintering habitat for the snowy plover. There are approximately 12.5 miles of beach used by the plover on the base and the Service has listed all of these beaches as critical habitat for the snowy plover. In its most recent biological opinion, the Service described the importance of Vandenberg to the recovery of the snowy plover as follows:

*Since the first comprehensive surveys for western snowy plovers in western North America in the late 1970s, **Vandenberg AFB has consistently held one of the largest concentrations of breeding western snowy plovers along the west coast** of the United States (Page and Stenzel 1981, Page et al. 1991). Vandenberg AFB accounted for 242 of 1371 adult western snowy plovers on a 1991 breeding-season survey of the California coast and had the highest number of adults of any area in California in the 1991 survey (Page 2001). Although no coast-wide surveys were attempted between 1992 and 1994, Vandenberg AFB supported a mean number of 223 adult western snowy plovers during the 1994 breeding season, indicating continuing high numbers (Persons 1995). In 1995, a coalition of researchers counted western snowy plovers in mid-breeding season in California coastal areas covered on previous state-wide surveys. They tallied a total of 974 adults; **the highest regional total, 213 birds, was again at Vandenberg AFB** (Page 2001). ....*

***Vandenberg AFB provides one of the greatest opportunities for recovery of the western snowy plover throughout its range because it has consistently supported one of the largest concentrations of breeding individuals throughout the species' range, has the largest continuous mainland coastal habitat under Federal ownership, and is expected to be able to support 400 adult birds during the breeding season.***<sup>12</sup> (Emphasis Added)

Within the Vandenberg, Surf beach provides some of the most important nesting habitat for the plover. The snowy plover nests along the entire length (approximately 4 miles) of Surf Beach. In a 1995 environmental assessment, the Air Force described the status of the bird at Surf Beach (which is sometimes referred to as Ocean Beach, named after the County Park adjacent to the Santa Ynez River estuary) as follows:

*Vandenberg Air Force Base supports approximately 200 breeding snowy plovers (USFWS 1994). In 1993, 82 of these nested on Ocean Beach. The remainder is on beaches on the northern portion of the base which are*

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<sup>12</sup> U.S. Fish and Wildlife Service Biological Opinion, March 9, 2001

*restricted to base personnel. .... The Ocean Beach population represents 6 percent of the entire California population of the threatened coastal population of the western snowy plover.<sup>13</sup>*

For example, in the report for the 2000 nesting season, there were 71 nests identified on Surf Beach,<sup>14</sup> which represented approximately 50% of the nests on the base (Surf Beach provides approximately 33% of the nesting habitat on Vandenberg). In addition, approximately 50 chicks hatched on Surf Beach,<sup>15</sup> which represents over 60% of the chicks hatched on the base. In other words, 1/3 of the nesting habitat on the base provided for over half the nests and hatchlings during the 2000 nesting season.

Clearly, Surf Beach is an important component of the nesting habitat on Vandenberg, which is one of the most important breeding and nesting habitats on the Pacific Coast. Thus, the Commission finds that the sandy beaches on Vandenberg that provide nesting habitat for the snowy plover are ESHAs under the Coastal Act.

## **2. Access Restrictions.**

Section 30240 of the Coastal Act restricts the types of uses within an ESHA to activities that are dependent on the sensitive resources. In this case, the Air Force proposes to restrict beach recreation activities in order to protect the snowy plover. As described in the access section above, the Pacific Coast population of the western snowy plover has declined over the last few years and continues to decline. In response to this significantly declining population on Vandenberg, the Air Force, in coordination with the Service, proposes to continue with significant restrictions to public access, which is the primary measure to protect the plover. In its biological opinion, the Service discusses impacts of recreational activities on the snowy plover:

*Human activities such as walking, jogging, unleashed pets, horseback riding, and off-road vehicles can destroy the western snowy plover's cryptic nests and chicks. Indirect impacts from these activities include disturbance of western snowy plover adults to the extent that they abandon nests or interference with incubation to the point that eggs become buried by sand or fail to hatch because of exposure to cold or heat (Warriner et al. 1986). .... Human activities can also interfere with foraging activities by disrupting the ability of adults and chicks to get to the wet beach to feed and return to the dunes or their nest (Burger 1993). Chicks can also become separated from*

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<sup>13</sup> Draft Environmental Assessment, Modification of Public Access Routes at Ocean Beach Vandenberg Air Force Base, California, March 1995.

<sup>14</sup> Western Snowy Plovers on Vandenberg Air Force Base, 2000 Final Report, January 2, 2001.

<sup>15</sup> Ibid.

*their parents as a result of human disturbance of broods. Such disturbance could cause or contribute to chick mortality by interfering with essential chick-rearing behaviors or by causing intolerable stresses directly to the chicks (Cairns and McLaren 1980). ... In some instances, disturbance associated with these types of recreational activities is expected to temporarily flush western snowy plovers and not affect the birds in such a substantial manner. In other cases, such disturbance could interfere with the metabolism and thermoregulation of western snowy plover chicks and migrating or wintering adults such that they starve or egg production is impaired during the subsequent nesting season (Cairns 1982). .... In 1998, a pattern of increased chick loss over weekends (when increased human use of beach areas occurs) was observed by western snowy plover researchers at Point Reyes National Seashore. .... Chicks were observed on Fridays and then again on Mondays (or the day after a holiday). Chick loss over weekends was over 1.5 times the weekday loss. Data from 1999 and 2000 show almost identical trends (Page, pers. comm.).<sup>16</sup>*

The Service's biological opinion describes the effects on plovers from recreational activities on the beach. Based on this opinion, the Air Force determined that it is necessary to significantly reduce beach recreational activities in order to prevent continued decline of plover numbers and provide adequate protection of the ESHA. Therefore, the Commission finds that the proposed project is dependent on the sensitive resources.

Section 30240 of the Coastal Act also requires activities within an ESHA to avoid significant disruption to the sensitive habitat. The proposed project will reduce the beach recreation activities within the ESHA. As described above, these activities can adversely affect snowy plover reproductive success.

However, opponents to the beach restrictions argue that recreational use is not the primary cause of the decline in the plover population, but rather that predation is the main problem. Regardless of who is responsible for population declines, the beach recreation restrictions provide protection for the plover from a documented impact. Since the population has significantly declined in recent years, it is clear that the Air Force should adopt all measures to protect the bird.

Another question before the Commission is the issue of nesting plovers occurring in the area to be opened for recreation use. In past years, the plovers have nested on the open portions of these beaches, but in relatively low numbers.

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<sup>16</sup> Ibid.

**Table 5. Western Snowy Plover Nests by Year on Areas Proposed for Recreational Beach Access.<sup>17</sup>**

Location	Year							Range
	1994	1995	1996	1997	1998	1999	2000	
North Wall 0.25 mile	1	0	0	1	3	1	0	1-3 (0-2% of all nests)
North Surf 0.5 mile	8	5	2	6	0	3	3	0-8 (0-3% of all nests)
North Minuteman 0.5 mile	0	0	0	0	0	0	0	0 (0%)
TOTAL	9	5	2	7	3	4	3	2-9
% of All Nests	3%	2%	1%	2%	2%	4%	2%	1-4%

The total closure of all of Vandenberg's beaches including the areas proposed to be opened may remove a deterrent that, in past years, discouraged nesting in the opened areas. However, in light of the limited beach access opportunities in Northern Santa Barbara, allowing public uses in areas where nesting activity in the past has been low and closing most of the plover nesting habitat to recreational uses is a reasonable solution that avoids significant disruptions while providing some access opportunities. Therefore, the Commission finds that the proposed recreational uses identified in the Air Force's consistency determination will not significantly affect the ESHA.

### **3. Predator Management**

The 2002 beach management program also involves the management of predators, in order to reduce snowy plover nest and chick loss from predation. Because of this purpose, the plan will protect this sensitive habitat, and therefore, is dependent on this resource.

The second requirement of the Coastal Act's ESHA policy is that the proposed activity avoids significant disruption to the sensitive resource. Predator management is necessary to protect this species for the following reasons: 1) the bird nests on the ground in loose colonies and relies mostly on camouflage as its protection from predation, which can result in significant nest losses; 2) human activities and invasive plants have eliminated much of the plover's nesting habitat, and thus the remaining habitat is much more sensitive to predation; and 3) the plover population has declined in recent years (as discussed above). Because of these concerns, predator management is necessary to protect the plover, reduce future declines in the population, and increase nesting success.

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<sup>17</sup> Biological Opinion for Beach management and the Western Snowy Plover on Vandenberg Air Force Base for the 2001 Breeding Season (1-8-01-F-13), P.18 (no data for 2001).



Past monitoring shows that predators are responsible for the loss of as much as 80% of the failed plover nests during a nesting season. The table below put predation in the context other causes for nest failure.

**Table 1, Percent of failed nests on north or south beaches attributed to various causes.**<sup>18</sup>

Year	Predation		Human		Abandoned		Surf or Wind		Other and Unidentified Causes	
	North	South	North	South	North	South	North	South	North	South
1994	51	51	0	1	7	15	1	5	41	28
1995	40	32	0	0	12	36	9	2	39	30
1996	54	38	0	3	19	36	4	1	23	22
1997	65	64	0	0.05	5	5	2	3	28	28
1998	80	73	0	4	3	7	6	7	11	9
1999	14	53	0	8	43	17	29	11	14	11
2000	60	82	0	0	20	8	10	3	10	7
2001 <sup>19</sup>	70	57	0	0	0	8	7	22	23	13

This table clearly shows that the percentage of failed nests attributed to predators is relatively high and indicates that predator management is necessary. However, predator management must be implemented carefully, because if improperly done it could result in significant ecological effects and possibly adverse impacts to the plover. For example, if the population of the top-level terrestrial predator, the coyote, in this system is significantly reduced through predator management, it could result in increase predation by lower level predators (mesopredators), such as red foxes, raccoons, opossums, and skunks. The mesopredators may be better at nest predation than the coyotes. In addition, predator/prey relationships are complex and too much interference with this relationship could have unintended ecological and biological effects. The goal of the Air Force's Interim Predator Management Plan is

<sup>18</sup> Modified from Western Snowy Plovers on Vandenberg Air Force Base, 2000 final Report, Thomas E. Applegate and Sandra J. Schultz, January 2, 2001, p. 22.

<sup>19</sup> 2001 data based on Email from Nancy Read Francine, Air Force Wildlife Biologist, 12/14/01.

to reduce predation of the plover while minimizing ecological effects from predator management. Specifically, the plan states that:

*Management actions conducted under this Plan will emphasize selective control of individual problem predators, using non-lethal techniques wherever possible in the control of native predators. VAFB's predator management decisions must also include the assessment of these actions on the larger ecosystem, with the priority being that ecosystem stability and integrity are maintained* (emphasis added).<sup>20</sup>

The primary predators that the interim plan focuses on are crows, ravens, and coyotes. These species account for most of the plover predation on the base. The Air Force proposes to use trash clean up and carrion removal as one of the tools to reduce the presence of these animals on the beach. The Air Force proposes to conduct beach clean up weekly and continue to re-assess the situation to determine if more frequent beach clean up is necessary. Decisions to increase the frequency of the clean-up activities will balance the need to keep the beaches free of human debris with potential impacts to the plovers from conducting the clean-up activities. The Air Force believes that human trash is one of the major attractants bringing predators to the beach. By removing this debris regularly, the Air Force hopes to reduce the number of predators attracted to the beach.

The Air Force's clean-up activities also include removal of carrion from the beach. Carcasses of fish, marine mammals, and birds wash up on these beaches regularly. Crows, ravens, and coyotes are scavengers that rely on carrion as part of their food source. The Air Force believes that the dead animals that wash up on its beaches also attract predators. The interim plan provides for removal of carrion when identified by the plover monitors. However, the decision to remove carrion will take into consideration potential impacts on the plover from the removal activities.

**a. Crow and Raven Predation.** Observations from this years (2001) nesting season, crows and ravens presence on the beach appears to be increasing. For the first time this since plover monitoring on the base began, biologists identified common ravens on the beach, and these birds were responsible for two nest losses. In addition, American crows were much more prevalent on the beaches in 2001. Removal of crows on the beach did not eliminate nest predation by crows, as has happened in previous years.

During the 2001-nesting season, the plan provided for lethal removal of crows and ravens. In response to the changes in corvid (crows and ravens) predation, the Air

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<sup>20</sup> Interim Predator Management Plan, p. 1.

Force has made some modifications to its plans for management of these birds. Specifically, the Air Force proposes to use “cage traps” to trap and remove (euthanize) corvids. The Air Force expects that this method would enhance its efforts to remove problem birds. The Air Force may begin this trapping before the plover nesting season begins. The Air Force believes that shooting of corvids may still be necessary in some circumstances and the predator management plan continues to allow for that option. Finally, the Air Force proposed to monitor crow movements to and from beaches in an attempt to identify their nesting and roosting locations. If feasible, the Air Force will remove non-native trees and artificial structures utilized by the crows.

These activities have the potential to affect plover habitat by increasing human presence in the habitat. In considering this issue, the Air Force has provided for the following protocols to prevent impacts on the plover:

- In consultation with the plover monitors, the Air Force’s Wildlife Biologist will make the determination to trap or kill crows and ravens;
- Authorized personnel from USDA-Wildlife Services will conduct any lethal removal;
- The Air Force’s Wildlife Biologist will direct USDA-Wildlife Services to limit lethal removal to individuals observed to access snowy plover nesting beaches;
- Removal will take place from pre-determined locations to avoid disturbance to nesting snowy plovers; and
- If a particular situation requires USDA-Wildlife Services to enter nesting habitat to remove crows, this action will be carefully coordinated between snowy plover monitors, USDA-Wildlife Services, and the Air Force’s biologist.

With these measures, it is unlikely that the lethal removal activities will significantly disturb plovers. Therefore, the Commission finds that the lethal removal of crows and ravens will not significantly disturb plover habitat.

**b. Coyote Predation.** Coyotes are another species that is responsible for a significant number of nest losses. They are the top-level predators in this area and, as such, they have a unique role in the ecosystem. This role may be important in managing snowy plover habitat by preventing other animals from preying on plovers and their eggs. Thus, the main effort in the management of coyote predation of snowy plovers is the elimination, or at least the reduction, of food sources that attract coyotes, and other predators, to the beach. To that end, the Air Force proposes to remove trash and carrion regularly. Monitoring results from the 2001-nesting season shows a significant reduction in coyote predation. There were 10

nests lost to coyotes in 2001, which significantly lower than in previous years. On average there were 37 nests lost due to coyotes previous five years (1996-2000).<sup>21</sup> These reductions may be the result of decreased recreational activities on the beach and beach clean up activities. However, the reductions may be, at least in part, due to increases in alternate prey such as rabbits.

If necessary, coyote predation will also be managed through lethal removal. This management alternative is necessary to prevent individuals from decimating the plover nests. The Air Force considered several alternatives to coyote management, but concluded that these alternatives were more damaging to the plover, were not a feasible or effective tool, or require additional information before they can be implemented. Specifically, the Air Force considered the following alternatives: 1) Nest Exclosures; 2) Invisible Fencing/Electronic Collaring of Coyotes; 3) Exclusion Fencing; 4) Aversion Feeding; 5) Diversion Feeding, and 6) Relocation.

The feasibility and environmental effects of these alternatives was fully discussed in the Commission review of the predator management program for the 2001 nesting season, CD-46-01, which is incorporated by reference. Among the alternative management techniques considered by the Air Force was diversion and aversion feeding. Aversion feeding involves the application of a noxious chemical compound to eggs, to train potential predators that the ingestion of such items is undesirable. The problem with this alternative is that the chemicals used to treat the eggs are toxic to plover eggs and represent a potential risk to plovers. Diversion feeding involves placement of a food source at an alternative location to attract coyotes away from the beach. This risk from this technique is that it may lead to increased coyote population and drawing coyotes and other predators to the area. The Air Force believed that both of these alternatives have potential and is continuing its research into these techniques.

Although the Air Force will continue to investigate aversion and diversion feeding methods to manage coyote predation, the primary approach that the Interim Predator Management Plan proposes is to minimize trash and carrion and lethal removal. The Air Force is cognizant of potential ecological effects from removal of the top-level predator in this ecosystem. The Air Force is especially concerned about adverse effects from an aggressive coyote removal program. Such a program could result in increased predation from mesopredators, increased coyote reproduction, or immigration of new coyotes into the area. However, the management plan includes the following measures to minimize ecological effects from lethal removal:

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<sup>21</sup> Draft Biological Opinion for Beach Management and the Snowy Plover on Vandenberg Air Force Base for the 2002 Breeding Season, November 26, 2001, p. 9 (Exhibit 5).

1. The Air Force will limit lethal removal to the following categories:
  - Individuals that are difficult to trap; and
  - Individuals that are identified as being directly responsible for predation, and when their removal is expected to result in reduced predation to snowy plover nests.
2. Lethal removal of coyotes will be considered within the following criteria:
  - Selective lethal removal will target individual problem animals;
  - Selective lethal removal will occur only when evidence indicates a nest or nests has been predated by an animal, further losses are probable due to observed foraging patterns in the area, and there are other nests at risk of predation in that area; and
  - Lethal removal will cease once it is confirmed that the identified predation problem in the area has ceased.

Finally, the Air Force has incorporated additional modifications of these protocols, which are as follows:

- There will not be any lethal action taken against a Coyote alpha pair.
- The lethal removal of coyotes will consist of trapping and euthanizing the offending animal.
- The Air Force will identify the coyote responsible for plover predation before implementing lethal removal;

With these measures, the Commission finds that plan for managing coyotes is the least damaging feasible alternative and that it includes measures to minimize ecological effects from predator management, including selective lethal removal.

**c. Raptors and Other Predatory Birds.** Raptors are another class of predators that are considered in the management plan. The Air Force's past monitoring of snowy plovers on Vandenberg has not identified raptors and other predatory birds (other than crows and ravens) to be responsible for a significant amount of predation of plover nests, although there probably has been some chick and nest losses to raptors and shrikes. However, the management plan provides for the management of predation by these birds. The Air Force has limited the management of predatory birds to capture and relocate responsible individuals. The Air Force describes its approach to managing predatory birds as follows:

*Upon determining that an individual predator poses a threat to snowy plovers on VAFB beaches, an effort will be undertaken to trap, band, and relocate the predator as soon as possible.*

- The determination will be made by the VAFB Wildlife Biologist upon consultation with the SCPBRG and plover monitors.*
- Knowledge of the avian predator's habits will determine the trapping technique to employ.*
- The decision to remove a predator must take into account the potential disturbance of the removal activity on nesting plovers relative to the potential threat of the predator. Trapping will be conducted in coordination with plover monitors and the VAFB Wildlife Biologist to avoid disturbance to plovers to the maximum extent practicable. As described elsewhere in this Plan, early identification of "plover-safe" trapping locations will minimize response time once a threat has been identified.*
- Trapped birds will be held in a licensed and permitted rehabilitation/holding facility until they can be released back into the wild.*
- Relocated birds will be released in an area with suitable habitat at a distance from which they would not be expected to return. The distance will be determined through consultation with the SCPBRG.*

*All avian predator removal actions will be implemented by authorized personnel from SCPBRG or USDA-Wildlife Services, under the direction of the VAFB Wildlife Biologist.<sup>22</sup>*

During the previous nesting season, the Air Force's management of predatory birds was limited to the captured and relocated one pair of owls. During its review of the 2001 predator management plan, the Commission raised concerns about lethal removal of raptors. In response to those concerns, the Air Force modified its project to eliminate the provision for lethal removal of raptors from its interim predator management plan. This modification is also incorporated into the management plan for the 2002 season.

**d. Conclusion.** In conclusion, the sandy beaches on Vandenberg support nesting snowy plovers, a federally listed threatened species. In addition, the

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<sup>22</sup> 2001 Interim Predator Management Plan, pp. 11-12

Service has designated these beaches as “Critical Habitat” for the snowy plover. Therefore, the snowy plover habitat on Vandenberg is an ESHA. The purpose of the 2002 beach management plan is to manage and protect this ESHA and, therefore, is dependent on the sensitive resource of the ESHA. In addition, the management plan will reduce impacts from human activities on the beach and predation of plovers, and therefore, will not significantly disrupt the ESHA. Therefore, the Commission finds that the proposed plan is consistent with the ESHA policy of the CCMP.

**VI. SUBSTANTIVE FILE DOCUMENTS.**

1. Consistency Determination No. CD-67-95 (Air Force, Public access restrictions for snowy plover); Consistency Determination No. CD-19-00 (Air Force, Public access restrictions for snowy plover); Negative Determination No. ND-87-99 (Air Force, after-the-fact emergency beach closure to protect snowy plover; Negative Determination No. ND-20-00 (Air Force, "immediate" (i.e., March 1-March 15, 2000 beach closure); Negative Determination No. ND-19-01 (Air Force, Immediate closure of all sandy beaches between March 1, 2001 and April 13, 2001).
2. Designation of Critical Habitat for Pacific Coast Population of the Western snowy Plover; Federal Register Vol. 64, No 234, page 68508 et seq., December 7, 1999.
3. Final Report - Western Snowy Plover Monitoring in 1993 at Vandenberg Air Force Base, February 2, 1994.
4. Final Rule for Determination of Threatened Status for the Pacific Coast Population of the Western snowy Plover; Federal Register Vol. 58, No 42, page 12864; March 5, 1993.
5. Page, Gary W., et al., Distribution and Abundance of the Snowy Plover on its Western North American Breeding Grounds; Journal of Field Ornithology, 62(2): 245 - 255.
6. Consistency Determinations: CD-21-82 (Air Force, Space Shuttle Facility), CD-5-89 (Air Force, Titan IV at SLC-7), CD-28-90, (Air Force, Titan IV at SLC-6), CD-65-90 (Air Force, Acquisition of development rights on Bixby Ranch), and CD-12-94 Air Force experimental seasonal beach closure, Ocean Beach).
7. Draft Environmental Assessment, Modification of Public Access Routes at Ocean Beach Vandenberg Air Force Base, California, February 22, 1994.
8. Draft Environmental Assessment, Modification of Public Access Routes at Ocean Beach Vandenberg Air Force Base, California, March 1995.
9. U.S. Fish and Wildlife Service, Biological Opinion on the proposal to modify recreational beach access, Ocean Beach, Vandenberg Air Force Base, February 3, 1995.
10. Preliminary Findings, Snowy Plover Reproductive Success on Ocean Beach, Vandenberg Air Force Base, California, U.S. Air Force, prepared for the California Coastal Commission, July 1998.



11. Draft Environmental Assessment, Beach Management and the Western Snowy Plover at Vandenberg Air Force Base, October 30, 2000.
12. Western Snowy Plovers on Vandenberg Air Force Base, 2000 Final Report, January 2, 2001.
13. Biological Opinion for Beach Management and the Western Snowy Plover at Vandenberg Air Force Base for the 2001 Breeding Season (1-8-01-F-13), March 9, 2001.
14. CD-023-01, 2001 Interim Beach Management Program, Vandenberg Air Forces Base, Santa Barbara County.
15. CD-046-01, 2001 Interim Predator Management Program, Vandenberg Air Force Base, Santa Barbara County.
16. Draft Biological Opinion for the 2002 Interim Beach Management Program for Vandenberg Air Force Base, Santa Barbara County, U.S. Fish and Wild Life Service, November 26, 2001.